

## **REMARKS**

### **I. Introduction**

This Amendment is a full and timely response to the non-final Office Action of February 10, 2005.

Upon entry of the present amendment, claims 1-85 will be pending in this application. Claims 58, 59, and 85 have been amended. No new matter has been added.

### **II. Offer to Surrender Original Patent**

The Examiner has objected to the application because it was filed without an offer to surrender the original patent. Attached hereto is an executed Asset of Assignee and Offer to Surrender Original Patent, which overcomes the Examiner's objection.

### **III. 35 U.S.C. § 103**

#### **A. Claims 1-4, 6, 9-36, 41-42, 51-55, 58-85**

The Examiner rejected Claims 1-4, 6, 9-36, 41-42, 51-55 and 58-85 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,500,857 to Nakata ("Nakata") in further view of U.S. Patent No. 5,572,612 to Delavaux *et al.* ("Delavaux"). The Examiner stated that Nakata discloses a bi-directional optical transport system including an optical bus, but fails to disclose an optical amplifier "dubbed with a material that is excited by excitation light and emits light having the same wave length as the light signals when radiated with light signals transmitted bidirectionally by the fiber optic line." The Examiner further stated that Delavaux taught the use of Erbium doped fiber amplifiers for use in a bi-directional

optical transmission system. Thus, the Examiner concluded that since the Nakata patent and the Delavaux patent are from the same field of endeavor, it would have been obvious to one having ordinary skill at the time the invention was made to use the Erbium doped fiber amplifier of the Delavaux patent in the system disclosed in the Nakata patent.

Applicants respectfully traverse this rejection, because the Examiner has not established a *prima facie* case of obviousness. In order to establish a *prima facie* case of obvious, the Examiner must show that: (1) there is some suggestion or motivation to one of ordinary skill in the art to combine the teachings of the references; (2) there is a reasonable expectation of success; and (3) the references teach or suggest all of the claimed limitations. The Examiner has failed to show that there is a motivation to combine or modify the teachings of Nakata and Delavaux and the combination of Nakata and Delavaux fails to disclose or suggest all of the claimed elements.

1. No Motivation to Combine

Delavaux discloses a fiber optic network utilizing a star architecture. Delavaux does not disclose the use of an optical bus. Moreover, Delavaux states that the star architecture is "preferred for fiber amplifier systems because it can support a large number of stations than can other architectures." Col. 1, ll. 35-37. Moreover, the fiber amplifier disclosed by Delavaux is a uni-directional optical amplifier. For example, the Delavaux patent describes the direction of optical signals in apparatus no. 3 and indicates that while a signal received at device 3 passes through fiber amplifier 33, a transmitted signal back to the central office does not pass through the fiber amplifier 33. Signals in device 3 and device 5 travel in a single direction as indicated by the arrows and the optical circulator. Col. 3, ll. 24-35; Fig. 1. Thus,

there would have been no motivation to combine the uni-directional fiber amplifier used in a star network architecture as disclosed in Delavaux in an optical bus architecture.

2. References Do Not Teach or Suggest all Claimed Elements

As stated above, Delavaux discloses a uni-directional fiber amplifier. Delavaux does not teach or suggest a bi-directional fiber amplifier. Therefore, Delavaux does not disclose or suggest a fiber amplifier that transmits signals bi-directionally on a light transmission line as claimed in Claim 1. Delavaux does not disclose or suggest a fiber amplifier for performing bi-directional amplification of the optical signals as claimed in Claim 19. Delavaux does not disclose or suggest a fiber optical amplifier for performing bi-directional amplification of the optical signals as claimed in Claim 55 and 75. Delavaux does not disclose or suggest a fiber amplifier for amplifying the optical signals traveling in both directions, wherein the amplifying is performing passively and is for compensating for at least some of the losses associated with diverting the optical signals towards the second node and for losses associated with the optical bus as claimed in Claim 58. Delavaux does not disclose or suggest a fiber amplifier providing passive amplification that is bi-directional and compensating for at some of the losses associated with passively diverting the optical signals to each node and for losses associated with the optical bus as claimed in Claim 69. Delavaux does not disclose or suggest a fiber amplifier for performing bi-directional amplification of at least one of the first set and second set of optical signals, wherein the optical amplifier is for compensating for at least some of the coupling losses associated with the passive optical interface device and for losses associated with the bi-directional optical bus as claimed in Claim 84. Delavaux does not disclose or suggest a fiber amplifier for amplifying the optical

signals traveling in both directions between a first node and a second node, wherein the amplifying is performed passively and is for compensating for at least some of the losses associated with diverting the optical signals toward the first node and for losses associated with routing the optical signals along the optical bus. Thus, Applicants respectfully traverse this rejection and request reconsideration and withdrawal thereof.

**B. Claim 5**

The Examiner rejected Claim 5 under 35 U.S.C. §103(a) as being unpatentable over Nakata in view of Delavaux. For the reasons stated above, Applicants respectfully traverse this rejection and request reconsideration and withdrawal thereof.

**C. Claims 7-8**

The Examiner rejected Claims 7-8 under 35 U.S.C. §103(a) as being unpatentable over Nakata in view of Delavaux and U.S. Patent No. 4,959,837 to Fevrier, *et al.* For the reasons stated above, Applicants respectfully traverse this rejection and request reconsideration and withdrawal thereof.

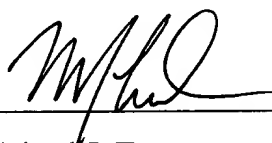
**D. Claims 37-40, 43-50, 56-57**

The Examiner rejected Claims 37-40, 43-50, 56-57 under 35 U.S.C. §103(a) as being unpatentable over Nakata in view of Delavaux. For the reasons stated above, Applicants respectfully traverse this rejection and request reconsideration and withdrawal thereof.

### CONCLUSION

The foregoing is submitted as a full and complete response to the Office Action of February 10, 2005. Applicants respectfully request that a timely Notice of Allowance be issued in this case. If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an amendment, please call 404 815 6061.

Respectfully submitted,



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Date: May 10, 2005  
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